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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/726,592      | 12/04/2003  | Mutsuhiko Yoshioka   | 246193US0           | 6903             |

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ALEXANDRIA, VA 22314

EXAMINER

CHEN, KIN CHAN

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

1765

DATE MAILED: 03/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/726,592

Applicant(s)

YOSHIOKA ET AL.

Examiner

Kin-Chan Chen

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– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 01 February 2006.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) 5-8 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 9-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 112***

1. Claim 15 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification.

In claim 15, line 2, "the film consists of the organosilicon polymer" is new matter.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. Claims 1-4 and 12 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Chen et al. (US 6,761,975).

Chen (US 6,761,975) teaches forming an organosilicon polymer on the surface of a substrate. The organosilicon polymer may be polycarbosilane, see col. 6, lines 56-67; col. 13, lines 3-39; Figs. 1 and 2.

As to dependent claim 3, also see col. 6, lines 56-67; col. 13, lines 3-39.

As to claim 4, see col. 14, lines 27-30.

Since the material of the prior art has same composition and structure as that of the claimed invention, it may be used as a stopper for chemical mechanical planarization. Furthermore, because it is for the intended use, it has not been given patentable weight.

5. Claims 9-11, 13, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al. (US 6,761,975) as evidenced by Roy (US 6,180,976) and Yoon et al. (US 6,121,146).

Chen teaches forming an organosilicon polymer on the surface of a substrate. The organosilicon polymer may be polycarbosilane, see col. 6, lines 56-67; col. 13, lines 3-39; Figs. 1 and 2.

Since the material of the prior art has same composition and structure as that of the claimed invention, it may be used as a stopper for chemical mechanical planarization. Furthermore, because it is for the intended use, it has not been given patentable weight.

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Chen teaches the substrate may be semiconductor substrate. Therefore, making commonly used multiple layers semiconductor substrate comprising such as insulating layers on the wafer obvious in the art of semiconductor device fabrication, see Roy (US 6,180,976; col. 1, lines 42-46) as evidence for the common description of the multi-layer semiconductor substrate. Furthermore, it is common in the art of semiconductor device fabrication that the insulating layer may be CVD-SiO<sub>2</sub>. See Yoon et al. (US 6,121,146; col. 4, lines 35-40).

Dependant claims 10 and 11 differ from the prior art by specifying various sizes and dimensions ( thickness of the film). Because same are merely a matter of choices of design depending on the product requirements, it would be obvious to one skilled in the art to use various dimensions and a plurality of for fabricating a semiconductor device in order to accommodate the specific product design and meet the product requirement.

*Changes in size, dimension, shape, proportion, or mere duplication of parts, are not sufficient to patentably distinguish over the prior art, unless the recited changes are critical, i.e., they produce a new and unexpected result which is different in kind and not merely in degree from the result of the prior art. In re Rinehart, 531 F.2d 1048, 189 USPQ 143. See also In re Dailey, 357 F.2d 669, 149 USPQ 47. See also In re Harza, 274 F.2d 669, 124 USPQ 378; MPEP 2144.04 IV-VI.*

6. Claims 1-3 and 14 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Nakano et al. (US 5,907,008).

Nakano teaches forming an organosilicon polymer on the surface of a substrate. See col. 37, lines 47-55.

As to claim 14, also see col. 36, lines 62-67; col. 37, lines 47-48.

Since the material of the prior art has same composition and structure as that of the claimed invention, it may be used as a stopper for chemical mechanical

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planarization. Furthermore, because it is for the intended use, it has not been given patentable weight.

7. Claims 1-3 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over US 2002/0142579.

US 2002/0142579 teaches forming an organosilicon polymer on the surface of a substrate, see abstract.

As to claims 2 and 3, see Table III.

Since the material of the prior art has same composition and structure as that of the claimed invention, it may be used as a stopper for chemical mechanical planarization. Furthermore, because it is for the intended use, it has not been given patentable weight.

8. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over US 2002/0142579.

US 2002/0142579 teaches forming an organosilicon polymer on the surface of a substrate. The organosilicon polymer may be polycarbosilane. Hence, it would have been obvious to one with ordinary skill in the art that the film may be consisting of the organosilicon polymer because they are using same materials.

Since the material of the prior art has same composition and structure as that of the claimed invention, it may be used as a stopper for chemical mechanical

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planarization. Furthermore, because it is for the intended use, it has not been given patentable weight.

### ***Response to Arguments***

9. Applicant's arguments with respect to claim 1-4 and 9-16 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Roy (US 6,180,976; col. 1, lines 42-46) shows that the multi-layer semiconductor substrate may comprise various insulating, conducting, and semi-conducting layers. Yoon et al. (US 6,121,146; col. 4, lines 35-40) teach that the insulating layer may be CVD-SiO<sub>2</sub>.

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

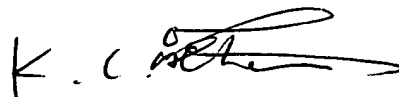
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within

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TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kin-Chan Chen whose telephone number is (571) 272-1461. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nadine Norton can be reached on (571) 272-1465. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mar 9, 2006



Kin-Chan Chen  
Primary Examiner  
Art Unit 1765